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SHELLS OF HERKIMER AND ADJACENT COUNTIES IN THE STATE OF NEW YORK.

BY JAMES LEWIS.

At various times I have prepared catalogues and other papers relating to the shells of this region. The latest catalogues of shell-bearing mollusca of Herkimer and adjacent counties was printed in the Proceedings of the Academy of Natural Sciences in 1860. Since that date several species have been found which previously had not been noticed. Corrections have also been made of species wrongly named.

A few rare land-shells have been detected in obscure retreats, where the progress of civilization has not reached them. For convenience of reference I arrange the species alphabetically, without following the most recent classification, my object being *geographical distribution* rather than classification.

***Amnicola Cincinnatiensis*?** Anthony.

Erie Canal and Mohawk River. In the rivers, this shell sometimes attains remarkable size. Specimens submitted to Mr. Tryon were pronounced to be *Cincinnatiensis* or *new*. I do not feel disposed to quote this as a new species on account of its size, for the reason that other shells not recognized as new species sometimes attain remarkable size in this region.

***A. lustrica*,** Say.

Schuyler's Lake, Otsego County; Little Lakes, Herkimer County; Smith's Pond, Litchfield, Herkimer County; Erie Canal.

The shells found in Erie Canal are doubtlessly introduced. Have been seen there only on one occasion (1869).

***A. pallida*,** Hald.

Lakes, rivers, and canal. I can distinguish these shells from those shells of Massachusetts called *A. porata*, Say, by Gould, only by their color, due to locality.

***Ancylus fuscus*,** Adams.

Schuyler's Lake and Little Lakes, New York.

***Ancylus parallelus*,** Hald.

Schuyler's Lake and Little Lakes, New York.

1872.]

***Ancylus tardus*, Say.**

Mohawk River. Found under stones along the margin of the stream at low water. I have found them only during the fall months. None could be found in 1871.

***Anodonta edentula*, Say.**

Mohawk River and Erie Canal; also streams running south to the Susquehanna River.

***Anodonta fluviatilis*, Lea.**

In ponds and streams near Schuyler's Lake.

***Anodonta imbecilis*, Say.**

Erie Canal. Very scarce and small.

***Anodonta lacustris*, Lea.**

Schuyler's Lake, Little Lakes, Smith's Pond, and a small pond at Herkimer. A small variety occurs in a marshy creek on the hills eight miles south of Mohawk.

***Anodonta Lewisii*, Lea.**

Erie Canal and Mohawk River. During the last ten years this species has been very nearly exterminated in the canal, affected, no doubt, by chemicals introduced in the armory sewage at Ilion.

***Anodonta subcylindracea*, Lea.**

Erie Canal, Mohawk River, and ponds at Herkimer. Not abundant.

***Anodonta undulata*.**

Erie Canal and Mohawk River. Scarce.

***Bythinella obtusa*, Lea.**

Erie Canal and Mohawk River. In the rivers this species sometimes grows very large; it is usually much larger here than specimens I have seen from other localities.

***Carychium exiguum*, Say.**

On moist land in the Valley of the Mohawk. I have not found it abundant elsewhere.

***Goniobasis livescens*, Menke.**

Erie Canal and Mohawk River. The shells vary, exceedingly, under the influences of station. The shells are characterized here as elsewhere by a weak epidermis, easily worn off. The species has, no doubt, been introduced from western waters by way of the canal. It is extremely abundant on rocks and hard-

[July 16,

clay banks in the Mohawk River, preferring swift water. I have no doubt a variety of this species furnished the type of Mr. Tryon's *Gon. Haldemani*.

Goniobasis virginica, Gmelin.

Common enough in the canal at long intervals. Has no doubt been introduced since 1856. Is said to abound in the Hudson River, and in streams near Buffalo. Is very seldom found in the Mohawk River.

In 1871 I found specimens which attain nearly the size of adults of this species, but which exhibit colors and forms somewhat unlike it. They seem to blend the colors of *Trypanostoma subulare* and *Goniobasis livescens*, and approximate the form and size of *Gon. virginica*. I am persuaded by the circumstances attending them that they are *hybrids*, and probably derived from *Gon. virginica*, and perhaps both the other two mollusca just named. The supposed hybrids are not found apart from *virginica*. Feeling unwilling to assume the responsibility of suggesting *hybridity* in a case which others might have settled by proposing a new species, I submitted specimens to Mr. Charles M. Wheatley for his opinion. I feel privileged to say that Mr. Wheatley assents to my view respecting the shells.

Helix albolabris, Say.

A common species. A variety with a tooth is found in the town of Litchfield. A single *reversed* specimen was found near Mohawk in June, 1871.

Helix alternata, Say.

This is the most abundant *Helix* of this region. It does not offer any notable varieties.

Helix arborea, Say.

Formerly somewhat abundant, but now extremely rare in the valley of the Mohawk.

Helix chersina, Say.

Damp grounds along the valley of the Mohawk. This species is rare, and very few have been seen for many years.

Helix concava, Say.

Somewhat abundant in damp ravines.

Helix dentifera, Binney.

Found in ravines in the town of Litchfield (1871). Only a very 1872.]

few specimens have been found. Some of these have the reflected margin of the aperture of a beautiful rose color.

Helix electrina, Gould.

Formerly abundant, but now quite scarce.

Helix fallax, Say.

Two specimens from Litchfield (1871), appear to belong to this species. They differ essentially from the variety of *tridentata* found here—heretofore regarded as *fallax*.

Helix fuliginosa, Griffith.

Abundant in some of the ravines in Litchfield.

Helix hirsuta, Say.

I have never found this species. Col. E. Jewett, of Utica, informs me he had found it several years ago near New Hartford.

Helix indentata, Say.

Always rare. It has not been found for several years.

Helix intertexta, Binney.

Found in ravines and on hillsides shaded by poplars. It is not a very abundant species, but may usually be obtained in the months of July and August.

Helix ligera, Say.

I have found a single specimen only. Dr. William Brown, of Litchfield, has half a dozen specimens taken from under an old fence on a hill in Litchfield. The shells are smaller than typical *ligera* and the apex is less pointed. It may be placed between typical *ligera* and *demissa*, and seems to identify these forms as varieties of one type.

Helix lineata, Say.

A rare species. Scarcely twenty living specimens have been found since 1854. [Since the above was written, Dr. Brown has presented numerous specimens found in Litchfield.]

Helix inornata, Say.

Common in ravines. Apparently more abundant than in former years.

Helix minuscula, Binney.

A rare species. Wet land in the Mohawk Valley.

[July 16,

***Helix minutissima*, Lea.**

A few specimens have been found in Litchfield by Dr. Brown (1871).

***Helix nitida*, Mull.**

Usually found abundantly on wet ground, near streams, ponds, and lakes. More common in the valley of the Mohawk.

***Helix palliata*, Say.**

Not abundant. Occurs somewhat more plentifully in the Litchfield ravines than elsewhere.

***Helix perspectiva*, Say.**

Litchfield; very scarce. (1871.)

***Helix pulchella*, Meill.**

Common on damp soil in many localities.

***Helix Sayii*, Binney.**

Common in ravines, but not so abundant as to be found without laborious search.

***Helix striatella*, Anthony.**

Sometimes very numerous in the valley; usually not abundant elsewhere.

***Helix tridentata*, Say.**

A small variety. Common in ravines.

***Helix thyroides*, Say.**

Seen only in the Mohawk Valley. Col. Jewett, of Utica, finds this species abundant and associated with *albolabris* by the side of the railroad embankment, seven miles east of Utica. The few specimens I have found occurred in an alder swamp west of the Mohawk.

***Lymnæa catascopium*, Say.**

Erie Canal and Mohawk River. I have seen a few shells, evidently referable to this species, in a small lake in the south part of Herkimer County.

***Lymnæa columella*, Say.**

Lakes. Not abundant.

***Lymnæa desidiosa*, Say.**

Common.

***Lymnæa elodes*, Say.**

Stagnant water in various localities.

1872.]

Lymnæa gracilis, Say.

Schuyler's Lake. At times very abundant. Usually scarce.

Lymnæa humilis, Say.

Less abundant than *desidiosa*.

Lymnæa pallida, Adams.

Little lakes. Very scarce.

Lymnæa stagnalis, Say.

Traces of this species have been found in the lakes elsewhere named. A single dried specimen (with the soft parts) was found in the Erie Canal, spring of 1871. Probably introduced from Cayuga Lake?

Lymnæa umbilicata, Adams.

None have been seen for many years. All that have been found inhabited a pool of stagnant water in a wood lot that has long since been cleared, and the pool dried up.

Margaritana marginata, Say.

Erie Canal and Mohawk River; not abundant.

Margaritana rugosa, Barnes.

More abundant than the preceding, in the same localities.

Margaritana undulata, Say.

Single specimens have been found in the Erie Canal and Mohawk River. The species abounds in streams emptying into Schuyler's Lake.

Melantho decusus, Say.

Inhabits Schuyler's Lake and Little Lakes without any associate species. Found also in the Erie Canal and Mohawk River with the two species next named. A few reversed specimens have been found.

Melantho integer, Say.

The opercle of the adult has the form of that of *M. ponderosus* Say. I am inclined to regard these shells as varieties of *ponderosus*. Reversed and malformed specimens occur sometimes in considerable numbers in the Erie Canal. Largest shell found is over two inches long.

Melantho rufus, Haldeman.

This species, as well as *integer*, has evidently been introduced
[July 16,

here, but at a more recent date. No shells of this species have been found here earlier than 1855, since which time they have gradually increased in size and numbers. The largest shell yet found is 1.83 inches long. It is in the collection of Mr. Charles M. Wheatley, of Phoenixville, Pa.

***Physa heterostropha*, Say.**

Common in rivers and streams; also in stagnant water. Some of the varieties simulate the forms of *gyrina*, *ancillaria*, and *integra*, but I do not think, from all I have seen, that either of those species can be entered here.

***Physa hypnorum*, Drap.**

A small variety. Not common.

***Planorbis armigerus*, Say.**

Sometimes very abundant in stagnant water. It is not constant in the stations where found.

***Planorbis bicarinatus*, Say.**

Erie Canal, Mohawk River, Schuyler's Lake, Little Lakes, and Smith's Pond. Shells found in Smith's Pond are very white, like ivory. Those found in Little Lakes are small and pale, but not so white as those of Smith's Pond.

***Planorbis campanulatus*, Say.**

Lakes and ponds. The few found in Smith's Pond are white, like *bicarinatus* in the same pond.

***Planorbis deflectus*, Say.**

Lakes. Not abundant.

***Planorbis exacutus*, Say.**

Lakes. Not abundant.

***Planorbis parvus*, Say.**

Stagnant water. Sometimes (rarely) abundant.

***Planorbis trivolvis*, Say.**

Canal, rivers, lakes, and stagnant water.

***Planorbis hirsutus*, Say.**

Schuyler's Lake. Rare.

***Pisidium abditum*, Haldeman.**

I think *P. variabile*, Prime, may be included under this species as a synonym. The shells occur in a great variety of stations.

1872.]

Pisidium æquilaterale, Prime.

Ditches and Erie Canal. Sometimes plenty.

Pisidium compressum, Prime.

Erie Canal and Mohawk River; also lakes and ponds.

Pisidium ventricosum, Prime.

The shells of this region are between *ventricosum* and *subrotundatum*, Prime. I am inclined to believe *subrotundatum* is a small variety of *ventricosum*. My local specimens were obtained from a stagnant pool near Mohawk, and from Little Lakes.

Pisidium virginicum, Bgt.

Erie Canal and Mohawk River.

Pupa contracta, Say.

Damp flat lands, Mohawk Valley.

Pupa pentodon, Say.

Damp flat lands, Mohawk Valley.

Somatogyrus subglobosus, Say.

Erie Canal. Introduced since 1860. This species comes from the west, and in a very few years has become numerically more abundant than any other mollusc in the canal.

Sphærium croceum, Lewis.

I described this species many years ago. Mr. Prime puts it in the synonyms of one of his species (*S. secure*). Since the publication of Mr. Prime's papers I have had opportunity to study *S. croceum*, and find it in very different circumstances from those which determine the habits of *S. secure*, typical specimens of which I have collected in Massachusetts. My shells are found usually in coarse angular gravel anchored by a byssus. They are more abundant in a small stream that connects the two "Little Lakes" in the south part of this county than elsewhere.

Sphærium fabale, Prime.

Small stream in the town of Litchfield, Herkimer County (headwaters of the Unadilla River). Found in the fall of 1871. Brought to notice by Dr. Litchfield.

Sphærium occidentale, Prime.

Stagnant waters, subject to drying. Not unusually found *alive* in the soil of dried stations.

[July 16,

Sphærium rosaceum, Prime.

This shell I proposed as "*Cyclas errans*," a number of years ago. Mr. Prime puts it in his synonymy of *S. rosaceum*. It seems to me, however, that the *habits* of this mollusc are more like those of *S. partumeium*, Say, which species is usually found in *stagnant* water, while Mr. Prime's *rosaceum* is a *river* shell. My shells are the most fragile of their class that I have seen. From my present knowledge of species and their habits, I am induced now to reclaim my species. I have found these shells usually adhering to the trunks of the "dwarf button-ball" growing in a stagnant pool; a more solid variety sometimes occurs in ditches.

Sphærium simile, Say.

Lakes. Abundant.

Sphærium solidulum, Prime.

Mohawk River. Not plenty.

Sphærium striatinum, Lamarek.

Mr. Say's description of *Cyclas edentula*, if read with the understanding that his idea of the anterior and posterior of bivalves was the reverse of the present usage, will be found to accord to the shells here referred to. This species occurs in the outlet of Schuyler's Lake, in *swift* water among *gravel*, while *S. simile* occurs in still water in *mud* in the same stream. A recent writer supposes *striatinum* to be the young of *simile*. This is an error. *S. striatinum* occurs as far east as the Connecticut River at Springfield, Massachusetts, and is found in many of the larger streams in New York, Ohio, and States westward. Is very abundant in the Erie Canal, less so in the Mohawk River. It has been found in Oneida Lake. (F. E. Spinner.)

Sphærium transversum, Say.

Sometimes abundant in the canal. A few may be found in late summer months in the Mohawk River. Evidently a western species, introduced, though known since 1853 to inhabit the canal.

Succinea aurea? Lea.

A small, orange-colored species found sometimes in the month of June around the "Little Lakes" may be *aurea*. The species has not been authoritatively determined.

Succinea avara, Say.

A large variety, sometimes 11-20 inch long, is found on the moist muddy banks of the Mohawk River, sometimes very plenty, some-

times rare. Smaller shells abound along water-margins on the hill regions south, at Little Lakes, and at Schuyler's Lake. Dr. Brown finds it in Litchfield.

***Succinea obliqua*, Say.**

Damp, shaded grounds along the Mohawk. This species is sometimes found on vegetation and trees, several feet from the ground. *S. Totteniana*, Lea, has similar habits, and has been found on apple-trees or hill-sides near woods.

***Succinea ovalis*, Gould.**

Margins of ditches, river banks, lake-shores, &c. Sometimes very abundant.

***Succinea Totteniana*, Lea.**

Inhabits ravines and hill-sides, wooded. Is nearly as large as *obliqua*, and has similar arborial habits.

***Trypanostoma subulare*, Lea.**

Erie Canal and Mohawk River. Prefers still water and a muddy slope. Very abundant.

***Unio cariosus*, Say.**

Mohawk River and Erie Canal. Scarce.

***Unio complanatus*, Lea.**

Canal, rivers, muddy streams, &c., but not in lakes. Our most abundant species.

***Unio lutiolus*, Lam.**

Mohawk River. Erie Canal, rarely. It is probably more abundant in the river a few miles below Little Falls.

***Unio radiatus*, Lam.**

Lakes. The only *Unio* found in Little Lakes and Schuyler's Lake, though *complanatus* occurs in the outlet of Schuyler's Lake, and in streams emptying into the lake.

***Unio Tappanianus*, Lea.**

Mohawk River. Abundant only at times. Some cause not understood makes them scarce only in exceptional seasons, as is the case with many other molluscs.

***Valvata tricarinata*, Say.**

Erie Canal, Mohawk River, Schuyler's Lake, and Little Lakes. In "Little Lakes" the shells are varied; *bicarinata* and *simplex*, occurring as prevailing forms in the upper lake; along the marshy borders *V. sincera*, Say, occurs. I am disposed to believe *sincera*

is only a variety of *tricarinata*; and it owes its deviation from the usual forms to the influence of station. "*V. sincera*" is found in *marshes* in Michigan.

Vertigo Bollesiana, Morse.

On vegetation by roadside, margin of a swamp in Litchfield, 1871. Those I have are from Dr. Brown.

Vertigo milium? Gould.

A small species is sometimes found among the drift floated by the rivers at high water in the spring, near Mohawk.

Vertigo ovata, Say.

Litchfield, with *V. Bollesiana*, 1871. It may possibly also occur in the valley; but specimens heretofore regarded as this species were referred by Morse to the following species.

Vertigo ventricosa, Morse.

Sometimes found alive in bogs. Oftener found dead in the high-water drift floated into windrows by the river.

Vitrina limpida, Gould.

In November and December, 1864, I found immense numbers of large, fine specimens of this *Vitrina* along the shaded slopes of a ditch on the flats near Mohawk. The soft parts were very dark. Since that time no specimens of *Vitrina* have been seen near Mohawk though repeated search has been made for them. Dr. Brown, of Litchfield, finds *Vitrina* in his yard. His residence is on a rich soil, the eastern slope of a hill, at an elevation supposed to be about 1260 feet above the sea-level. His specimens are not numerous, but are apparently perennial.¹

Vivipara contectoides, W. C. Binney.

A colony (from Illinois) planted in the Erie Canal, fall of 1867, is now thriving. A few specimens were found there in the spring of 1871, remarkable for their beauty and perfect development.

Zua lubrica, Leach.

Stations are numerous, but shells not abundant.

MOHAWK, N. Y., Jan. 15, 1872.

¹ Since the preceding notes were written, Dr. Brown has presented numerous large adult specimens taken late in the fall of 1871. The shells are apparently identical with those of the colony of 1864, but are not so pale—being slightly tinged with green. The soft parts of Dr. Brown's specimens are not so dark as those found in 1864. Similar variations in color have been observed in the soft parts of well-known species of *Succinea*.